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CONTRACT OUTLINE

FOR

GASOLINE POWER UNIT, MECHANICAL, GM-1

NOTICE

This material contains information affecting the national defense of the United S[illegible] w[illegible] the meaning of the espionage laws, Title 18, USC, Secs. 793 and 794, the [illegible] or revelation of which in any [illegible] person is prohibited by [illegible]

24 April 1952

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1. AIM.-

1.1. The aim of this contract outline is the production of working prototype models, design information, complete manufacturing drawings and specifications of a gasoline engine and speed reducing gear box which can be attached to the GN-58, driving it at its normal cranking speed. The gasoline engine is an adaption of the engine in the UGP-12 engine-generator.

2. NOMENCLATURE.-

2.1. The assigned nomenclature of this equipment shall be GM-1. Preliminary engineering models will be assigned the nomenclature GM-1(X-1), (-2), (-3), etc., as may be necessary.

3. DISCUSSION OF PROGRAM.-

3.1. The program is to be conducted in two separate and distinct phases as outlined below:

3.1.1. Phase One - Development design phase.

3.1.2. Phase Two - Equipment design phase.

3.2. Each phase of this program is to be completed and approved by the Government prior to the initiation of the succeeding phase.

3.3. The purpose of Phase One is to provide all necessary design data, drawings, material lists, specifications, tolerances and test procedures necessary to the manufacture of a preliminary engineering model of the equipment meeting the requirements as stipulated herein. Phase One is to be divided into two periods as follows:

3.3.1. Period One - Preliminary Design.
This shall be a paper design of the equipment, based upon the results of the study of Phase One and aimed at producing a set of specifications for the construction of the engineering models. Preliminary tests of components or units of the system shall be conducted to verify their suitability for the application intended. At the conclusion of this period, the design and data will be checked and evaluated by representatives of the Government.

3.5.2. Period Two - Engineering Model Construction and Tests. During this period, an engineering model shall be constructed and complete tests shall be performed in accordance with the specifications. The tests shall be viewed and/or reviewed by representatives of the Government. The satisfactory completion of the specification tests shall precede the submission of the model to the Government for preliminary operational tests at Government operated laboratories.

3.4. Phase Two will commence after the completion and approval of Phase One by the Government. Upon completion of Government operational tests, estimated at thirty days, the Government may require changes or modifications in the equipment. The desired changes or modifications shall be transmitted in writing to the contractor who shall incorporate such changes into the design of the working prototypes. This period shall encompass all design changes necessary to producing a complete set of manufacturing drawings suitable for reproduction, a bill of material of all nonfabricated parts and components including data as to capacity, tolerances, formulae, composition or definition, as may be required for their purchase. The manufacturer or supplier shall be identified and the cost in some unit quantity shall be stated. Complete manufacturing instructions shall be included as well as test procedures for prototype tests. The submission of a report containing the above requested information, the drawings, the complete revised specification, and five working prototype models meeting the specification as revised shall terminate this program.

3.5. A proposal from the contractor relative to this program shall include a time chart of the development program showing the estimated elapsed time and man hours and estimated cost required for Phase One and Phase Two.

3.6. The following Specifications shall serve as a general guide.

4. SYSTEM DESCRIPTION.-

4.1. The GM-1 is to be a gasoline engine and integral gear reduction box which can be used to drive the GN-58 hand generator at its normal cranking speed of 60 rpm.

4.2. In making the best utilization of existing components, the engine-generator UGP-12, minus the electrical components is to be used as a motivating source. The gear reduction box shall be mounted in place of the removed generator, producing, if possible, the same size and weight configuration of the UGP-12.

4.3. The GM-1 shall have providions for firmly affixing itself to the GN-58 without requiring modifications to the latter.

5. GENERAL CHARACTERISTICS.-

5.1. The GM-1 shall operate under the extremes of temperature, humidity, and altitude and shall have the same life cycle requirements as those of the UGP-12.

6. SPECIAL REQUIREMENTS.-

6.1. The maximum speed variation permissable at the output shaft shall be no greater than plus or minus 3 rpm deviation from the nominal of 60 rpm. A wind vane or centrifugal governor may be used as a speed regulator.

6.2. The speed reducer of the GM-1 shall require no preventive maintenance during its lifespan. Lubrication shall be considered permanent through the use of sealed gear cases or drives requiring no lubrication.

6.3. All paragraphs of Specification No. 52-A-1017-A which are applicable to the complete engine portion of engine-generator UGP-12, presently being manufactured under Contract XG-760, shall apply to the GM-1, and are hereby included by reference as part of the requirements of this contract outline.

6.4. Running spares and tools shall be a part of each GM-1 and shall be supplied with each prototype.